

Work Order ID 142571

Thursday, March 10, 2016 10:46:02 AM

142571

Page 1

Item ID: D3672-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Washer, Phenolic
Start Date: 3/14/2016 Start Qty: 250.00 **500** **MAR 11 2016** **DAS 13 9-89**
Required Date: 3/21/2016 Req'd Qty: 250.00 ***250*** ***250*** Cust Item ID:
Reference: Customer:

Approvals: Process Plan: MCS Date: MAR 10 2016 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3672	Rev C

100 PURCHASING 0.00 ***100*** **500** **MAR 16 2016** **DAS 13 9-89**
Purchasing Memo 0.00
Purchasing Issue P/O: 31715
Purchase Part Number: MM .500 OD X .267 ID X.031 +/-0.02
Supplier: HASKINS INDUSTRIAL
Certificate of conformity is required

110 Receive & Inspect for Damage & Mat'l Certs 0.00 ***110*** **500** **SP 16-03-21**
Packaging Memo 0.08
Packaging Ensure certificate of conformity is attached

120 QC6- Inspect dimensions to drawing 0.00 ***120*** **500** **DAS 38 9-89**
QC Memo 0.00
Quality Control **MAR 21 2016**

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 142571

Thursday, March 10, 2016 10:46:02 AM

142571

Page 2

Item ID: D3672-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Washer, Phenolic
Start Date: 3/14/2016 Start Qty: 250.00 ***250*** Cust Item ID:
Required Date: 3/21/2016 Req'd Qty: 250.00 ***250*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: <u>5# 057A</u>	0.00							
130									
Packaging	Memo	0.04				500	0.00		
Packaging	LOCATION : FP001								MAR 22 2016
140	QC21 - Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.42				MLJ			MAR 22 2016
Quality Control									

MAR 22 2016

MLJ

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
		OTHER : ☐							

Picklist Print

Thursday, March 10, 2016 10:46:06 AM

Page 1

Work Order ID: 142571

142571

Parent Item: D3672-3

D3672-3

Parent Item Name: Washer, Phenolic

Start Date: 3/14/2016

Required Date: 3/21/2016

Start Qty: 250.00

Required Qty: 250.00

Comments: IPP Rev:A New Issue 07-09-09 JLM Verified By:EC
IPP Rev:B ECN 1056 07-11-13 DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3672-3P		Purchased		No		110	Each	0.0000	1	250			
D3672-3P									**				
Washer													

500x 8p/6-03-21

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

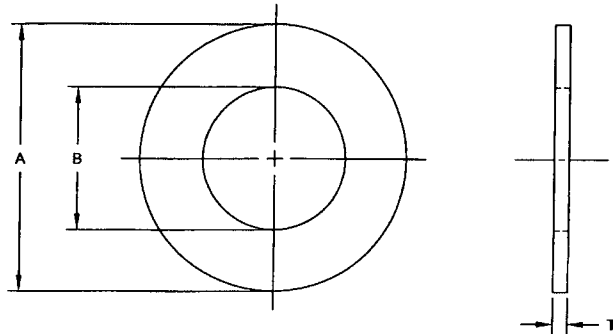
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY							
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐		Power Loss/Surge ☐		Positioned Wrong ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐		Folio/Program ☐		Outside Dimensions ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐		Grain ☐		Over/Under tolerance ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐		Weld ☐		Part Incorrect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐		Wrong Stock Pulled ☐		Part Lost/Missing ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐		Out of Sequence ☐		Part Moved ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐		Off-set ☐		Drawing ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐		Mislabeled ☐		Finish ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐		Fit/Function ☐		Misread ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐		Misaligned/off center ☐		Turning Sequence ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : ☐							
Misidentified ☐		Past Due ☐									

SPECIFICATION CONTROL DRAWING



D3672-X PHENOLIC WASHER

Dart P/N	A (IN)	B (IN)	T (IN)	SUPPLIER P/N	REPLACES
D3672-1	0.437	0.210	0.031	MM .437OD x .210ID x .031 +/- .002 PHENOLIC FLAT WASHER	NAS1515H3L
D3672-3	0.500	0.267	0.031	MM .500OD x .267ID x .031 +/- .002 PHENOLIC FLAT WASHER	NAS1515H4L
D3672-5	0.562	0.326	0.062	MM .562OD x .326ID x .062 +/- .002 PHENOLIC FLAT WASHER	NAS1515H5
D3672-7	0.562	0.328	0.031	MM .562OD x .328ID x .031 +/- .002 PHENOLIC FLAT WASHER	NAS1515H5L
D3672-9	0.625	0.390	0.031	MM .625OD x .390ID x .031 +/- .002 PHENOLIC FLAT WASHER	NAS1515H6L
D3672-11	0.750	0.453	0.031	MM .750OD x .453ID x .031 +/- .002 PHENOLIC FLAT WASHER	NAS1515H7L
D3672-13	0.875	0.515	0.031	MM .875OD x .515ID x .031 +/- .002 PHENOLIC FLAT WASHER	NAS1515H8L



NOTES:

- 1) MATERIAL: PHENOLIC. PURCHASE HASKINS INDUSTRIAL INC. P/N PER TABLE (IN QUANTITIES OF 1000)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A

STOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

142571 M.L.S.
16-03-10

RELEASED
2009-12-14

C	REDRAW, ADD -13 (ZN A8-1), PAR 09-038	CP	09.11.04
B	ADD -5/7/9/11	DC	07.10.09
A	NEW ISSUE	DC	07.08.28
REV.	DESCRIPTION	BY	DATE
DESIGN	DC	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	qp		
CHECKED	JP	DRAWING NO.	REV. C
MFG. APPR.	JP	D3672	SHEET 1 OF 1
APPROVED	JP	TITLE	SCALE
DE APPR.	JP	PHENOLIC WASHER	NTS
DATE	09.11.04	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
				OTHER : ☐					



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO31715

Purchase Order Date 3/16/2016

PO Print Date 3/16/2016

Page Number 1 of 6

Order From :

VC-HAS001

Ship To : DART AEROSPACE LTD

HASKINS INDUSTRIAL
5-52 ANTARES DRIVE
NEPEAN, ON K2E 7Z1
CA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

E-MAILED

Contact Name

Vendor Phone 613 723 8800

Ship To Contact

Ship To Phone

Ship Via: Dicom

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

FCA - (Free Carrier)

MAR 18 2016

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D3672-3P	Washer	3/22/2016 Yes 3/22/2016		500.00 Each	\$0.34	\$170.65
	AS PER DWG D3672 REV. C B142571						
						Line Total:	\$170.65
2	D3672-7P	Washer	3/22/2016 Yes 3/22/2016		500.00 Each	\$0.34	\$170.65
	AS PER DWG D3672 REV. C B142572						
						Line Total:	\$170.65
3	PR-71	Rivet	3/22/2016 Yes 3/22/2016		500.00 Each	\$0.03	\$14.70
	AS PER DWG D3950 REV. A B142583						

Note:

3/16/2016

HASKINS INDUSTRIAL INC.
5-52 ANTARES DRIVE

** PACKING SLIP **

Order # 1260914.00

Order Date 03/16/16

NEPEAN, ONTARIO K2E 7Z1
TEL (613)723-8800 FAX (613)723-8806

Page 1 of 2

Sold To: DART AEROSPACE LTD.
1270 ABERDEEN STREET
HAWKESBURY
ON
K6A 1K7

Ship To: DART AEROSPACE LTD.
1270 ABERDEEN STREET
HAWKESBURY
ON
K6A 1K7

* Reprint *

Cust Phone #	Warehouse	F.O.B.	Taken By
	OTTAWA	DEST	Sylvie 613-723-880

Cust #	Customer P/O #	Required	Orig Order	Slsm	Ship Via	Terms
05168	31715	03/17/16	1260914.00	PL	DICOM	NET 30

Ln#	Bin #	Order UM	Ship	B/O	Product	Description
1	CB1170	10 EA	10		PTD-0572054	A012 3/16 JOBBER DRILL TIN (10)
2	020230	200 EA	200		3M-AB20030360 AB20030	3" X HN 60G 988R DISC, ROLOC AB20030
3	040335	200 EA	100	100	3M-ABX988R260 ABX20629	2" X HN 60G 988R DISC, ROLOC ABX20629
4		3 EA	0	3	SGS1X1	30107 1/16 4FL SER 01S ENDMILL
5	*	2 EA	0	2	HAR1X1	51710-C3 1/8 X 60DEG .015R TOOL
6	CAB215	6 EA	3	3	SGS-36864	3/8" Z1PCR 4FL ENDMILL FLT CRN RAD
7		4 EA	0	4	SGS1X1	36517 1/2 4FL .030R Z CARB EM
8		30 EA	30		KEO1X1 2453684	OFPT53AFEN4BG KC725M INSERT
9		3 EA	3		KEO1X1 4041080	ABDF0750J2BS K600 3/4 CARB EM
10		2 EA	0	2	KEO1X1 3876659	AADF1000J2ERA K600 1" CARB EM
11		6 EA	0	6	SGS1X1	36855 5/16 4FL .020R Z-CARB TX EM

MASKINS TPIAL INC.
5-52 AN1 5 DRIVE

** PACKING SLIP **

Order # 1260914.00.

Order Date 03/16/16

NEPEAN, ONTARIO K2E 7Z1
TEL (613)723-8800 FAX (613)723-8806

Page 2 of 2

Sold To: DART AEROSPACE LTD.
1270 ABERDEEN STREET
HAWKESBURY
ON
K6A 1K7

Ship To: DART AEROSPACE LTD.
1270 ABERDEEN STREET
HAWKESBURY
ON
K6A 1K7

* Reprint *

Cust Phone #	Warehouse	F.O.B.	Taken By
	OTTAWA	DEST	Sylvie 613-723-880

Cust #	Customer P/O #	Required	Orig Order	Slsm	Ship Via	Terms
05168	31715	03/17/16	1260914.00	PL	DICOM	NET 30

Ln#	Bin #	Order UM	Ship	B/O Product	Description
12	CAB810	500 EA	500	MMS-D3672-3	.500 X .267 X .031 +/- .005 WASHER, PHENO
13	CAB810	500 EA	500	MMS-D3672-7	.562 X .328 X .031 +/- .005 WASHER, PHENO
14		1 EA	0	1 SP1X1	PR-71 RIVET BOX OF 500 PIECES

PRICED BY THE BOX

8016-03-21

PLEASE NOTE:

1. NO RETURNS WITHOUT PRIOR AUTHORIZATION
 2. ALL SHORTAGE CLAIMS MUST BE WITHIN 10 DAYS
 3. BO CODE: BO = QTY NOT SHIPPED IS BACK-ORDERED
- CL= QTY NOT SHIPPED WAS CANCELLED
SC= ITEM CONSIDERED COMPLETE - NO B/O CREATED

FILL PACK DATE
Printed on 2016-03-17 at 10:31

317110